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ABSTRACT

A project studied the feasibility of delivering instructional modules via a computer-managed instructional system for preparing and certifying inservice vocational education teachers. The project developed a computer-based system to deliver and manage instructional modules, developed and field tested twenty instructional modules, and developed a procedure for evaluating the effectiveness and efficiency of individual performance-based modules as delivered by a computer-based system. The project served fifteen inservice vocational education teachers and attempted to meet project objectives by (1) utilizing performance-based teacher education modules stressing individualized instruction via a computer-managed system, (2) utilizing advisement processes that will be improved by setting aside blocks of time at each vocational education setting, (3) developing performance-based modules to limit time spent in a North Carolina A&T State University classroom and increase course-content meaningfulness in meeting inservice needs of teachers in their unique setting, and (4) reducing class meetings through independent studies aided by instructional modules and on-site instructor observations. The project demonstrated that it was feasible to develop a computer-managed instructional system that can individualize instruction for students and provide activities consistent with professional course requirements. (Author/CSS)

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Final Report

Project No. 498AH70038
Grant No. G007701163

A PROPOSAL FOR THE DEVELOPMENT AND FIELD TESTING OF A COMPUTER-MANAGED DELIVERY SYSTEM FOR IMPROVING THE INSERVICE TRAINING OF VOCATIONAL SCHOOL PERSONNEL WITHIN THEIR RESPECTIVE SCHOOL SETTING

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ABSTRACT

The purpose of this project was to investigate the feasibility of delivering instructional modules via a computer-managed instructional system for preparing and certifying inservice vocational education teachers. This project developed a computer-based system to deliver and manage modules of instruction, developed and field tested twenty modules of instruction, and developed a procedure for evaluating the effectiveness and efficiency of the individual performance-based modules, as delivered by a computer-based system. The project was designed to focus on 15 inservice vocational education teachers. The program was operated to meet the stated objectives through the following approaches: (1) utilizing competency-based teacher education and/or performance-based teacher education modules stressing an individualized approach to instruction via a computer-managed system, (2) utilizing advisement processes that will be improved by setting aside blocks of time at each vocational education setting, (3) developing performance-based modules to limit the time spent in a North Carolina A&T State University classroom and increase the meaningfulness of the course content in inservice needs of teachers in their unique setting, and (4) reducing the number of class meetings through independent studies aided by instructional modules and on-site observation of instructors by North Carolina A&T State University teacher educators. The results of this study should provide a basis for: (1) improving procedures for delivering and up-dating paper-based instructional modules, (2) providing flexibility to accommodate the wider range of needs of inservice teachers, emphasizing a choice of educational methods and subject content, (3) improving the control and accountability of performance-based modules, and (4) providing more freedom to the teacher-educator to individualize instruction.

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PREFACE

The principal investigator and project coordinator would like to acknowledge the assistance of several individuals in conducting this project. The support and cooperation of the administration of the Division of Industrial Education and Technology at North Carolina A&T State University and the Department of Occupational Education at the University of Delaware. Acknowledgement is made to the following faculty members of the Department of Occupational Education: Dr. John I. Matthews, department chairman; Dr. Nevin R. Frantz, Jr., professor; and Mr. Frank Higgins, instructor. Acknowledgement is also made to Mr. Edward E. Boas, Jr., director of the DELTA Educational Computing System and Mr. Edward E. Jones, a DELTA staff member. It was a pleasure to work with these individuals and the participating students during the project. We appreciate their support and cooperation very much.

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Newark, Delaware
June 27, 1978

A Proposal for the Development and Field Testing of a Computer-Managed Delivery System for Improving the Inservice Training of Vocational School Personnel Within Their Respective School Setting

I. Introduction

The Vocational Education Act of 1963 and subsequent amendments in 1968 made provisions for the preparation of vocational education instructors and upgrading the performance of inservice vocational education personnel. Present federal legislation indicated in the Federal Register, Volume 41, Number 231, Tuesday, November 30, 1976, page 521643, Section F, entitled "Personnel Development for Vocational Education," states that the commissioner is interested in developmental projects that "identify, describe, and evaluate existing preservice vocational teacher education and training programs in terms of teacher needs in contrast to the training being received, or design, develop, and test new preservice teacher training programs that meet current teacher needs." This training should keep pace with the latest developments in the field and still meet the needs, interests, and abilities of the teachers to be trained. However, a disparity presently exists between legislative intents and viable programs that accommodate large numbers of teachers in most vocational education settings. One of the major challenges confronting vocational teacher educators today is the problem of providing viable teacher training programs for increased numbers of instructors with a wide range of individual differences along with an even more complex range of activities within the area of vocational education. At the same time there exists the need for making instruction relative to the needs of certified and uncertified instructors already in vocational classrooms instructing students.

Need. The problem of providing vocational education in general, and vocational teacher education in particular, has been a thorny one through the years. Although concerted efforts have been made to improve vocational teacher education in off-campus locations throughout the states of Delaware and North Carolina, certain aspects of the problem continue. This does not suggest that intelligent effort has not been directed to the problem. Actually, it has been one of the major areas of concern and effort. This problem has been compounded with the additional opening of two new vocational-technical schools in New Castle County, Delaware. The great majority of the teachers at the vocational centers need courses for certification and inservice training to meet their professional needs in the classroom.

The diversity of vocational education instructor preparation and experience in teaching in vocational school programs requires a flexible and personalized approach to the delivery of instruction if the goal of providing adequate instruction is to be realized. For some instructors who have had a substantial preparation prior to teaching, the problem is less severe; but for those who have come directly from industry or business, a real question of survival exists. The difference in

Instructors' preparation provides a meaningful setting to explore whether inservice preparation should be developed over six years or be provided on an individual basis and on a come as you need basis. Present practice requires instructors to enroll in courses for certification over six years. This practice often leads to many instructors attending classes with little interest in the University or its course offerings. These instructors have already solved many of the questions and problems they have encountered. However, the practices they have established are often inappropriate and lead to unrewarding instructional environments for both the teachers and their students.

It must be realized that many inservice teachers enroll in vocational teacher education courses to obtain in-depth skills and knowledge to solve specific problems they have encountered. These same instructors find the classroom type approach to be artificial in nature and their goals and objectives are lost in the course content and structure.

Review of Literature. The review of related literature covered the period from 1967 to 1976. The primary purpose of this review was to examine the research related to computer-managed instructional delivery systems utilized for training inservice vocational education teachers. A secondary purpose was to outline the developments of performance-based teacher education (PBTE) in order to place in proper perspective the relationship between pedagogical skills and the need for objective criteria-based evaluation of the skills.

Inservice Vocational Education Teacher Training Programs. Inservice vocational education teacher training programs have been criticized for their lack of concern for meeting the needs of vocational teachers who enter the field of teaching without needed preparation. Surveys of instructors and administrators indicate that they feel that required certification courses and further inservice training should take place within their vocational school settings. Rationale for this is that course work is often meaningless because the content is not applicable within their setting; little effort is made to assess prior experience of instructors; the particular needs of the instructors are not analyzed to provide the most essential training; and due to the uniqueness of each vocational school setting, there is often a lack of agreement between the desired outcomes of the course and those sought by local administrators and supervisors of the instructors.

Review of the literature by Terry, Thompson, and Evans (1972) and Wilson and Curtis (1973) indicates that 40 states have reported varying degrees of progress towards performance-based teacher education and/or certification systems. Evidence exists that many state boards have enacted policies based on a performance-based philosophy which affect not only the preparation of prospective teachers but also the re-credentialing of current teachers. It is evident that large numbers of educators throughout the country are applying themselves to the task of developing and coming to grips with a philosophy of performance-based teacher education.

Performance-Based Teacher Education. The projects in the field of vocational teacher training dealing with performance-based models and modularization of performance-based instruction are too numerous

to list. Specific review of the performance-based teacher education curriculum developed by The Center for Vocational Education (1976) at the Ohio State University best illustrates the present state of the art. The goal of their project was to conduct research and develop activities that would contribute to the improvement of vocational personnel development programs. They have developed 100 performance-based vocational teacher education modules and related supportive materials. The modules are performance-based and focus upon specific professional competencies for vocational teachers. Their modules are based upon 384 performance elements needed by vocational education instructors. These elements were derived after extensive review by professionals in the field and study by the Center. The modules are planned to be delivered in a university or college setting by a paper packaged delivery system. Utilization of the modules in a computer-managed delivery system is not expected due to the structure and nature of the modules developed.

Individualizing Instruction. The use of printed paper modules or packages (Frantz, 1976) to deliver instruction has also generated problems with respect to development, reproduction, dissemination, and storage. The offset reproduction process requires typing, printing, and collating vast quantities of material which is extremely time consuming and expensive. Once the material has been produced it is virutally impossible to modify the modules by making corrections or updating listed resources and activities without going through the entire reproduction process again. The dissemination and utilization of printed materials in a university classroom to remote centers requires logistical support in terms of delivery, schedules, and storage space. Quite often instructors will keep the modules or destroy them in the process of using them and additional copies must be acquired for future classes.

A review of the projects (Ramp and Anderson, 1972 and Terry, Thompson, and Evans, 1972) indicate a great deal of effort is being expended in individualizing instruction in teacher training programs throughout the nation. Most of these projects were individualizing instruction through a paper packaged delivery system. Others reported the use of a computer to schedule and manage inservice instructors as they worked with printed instructional modules. None of these projects utilized a technology-oriented system to deliver modules and manage the instruction for large numbers of instructors in a variety of educational settings within several different physical facilities. The purpose of this project was to investigate the feasibility of delivering instructional mouldes and managing an individualized system for the training of inservice vocational education teachers at on-campus sites utilizing computer-based technology.

Computer-Based Instruction. Although the introduction of a computer-managed delivery system for inservice teacher training will alleviate many course content problems and produce some flexibility and options for instructors in the field, it will also create other problems dealing with expanded teacher educator roles, financial costs, and logisticai support systems. The operation of a computer-managed individualized system of instruction will demand a well organzied and administered system of inservice teacher training. Individual accomplishment of terminal performance objectives will force teacher educators to spend more time in evaluating instructors' achievement as opposed to giving

group demonstrations and lectures. A great deal of paper work has been generated for instructors to use, and a great deal of time is spent by the teacher educator in manually recording student accomplishment. The technique of differentiating objectives in terms of quantity and quality based upon individual instructor interests and aptitudes produces serious questions in terms of accountability. Teacher educators using this aspect of a computer-managed individualized instruction system must provide accurate and detailed records of each instructor's accomplishments in order to accurately portray to themselves the levels and types of performance they have mastered at a particular point in time.

Description of Problem. In order for effective programs for training vocational education instructors to be improved and expanded at the local level, it is imperative that there be an instructional delivery system capable of meeting the needs of individual instructors and insuring that competent instructors will be trained capable of dealing with the complex and unique skills required to successfully teach vocational programs. The performance problem addressed by this project was basically two fold: (1) many present inservice vocational teachers lack adequate competencies in important instructor procedures and skills and (2) potential vocational instructors entering the field of vocational education lack necessary training and competencies in the same knowledge and skills areas. The increasing, complex demands placed on vocational instructors by students, certification, supervisors, administrators, and the public magnifies the need for highly competent instructors who are capable of insuring effective and efficient vocational education instructional programs.

II. Procedures of the Project

The project was conducted in two phases which involved the development and the field testing activities. During these phases the following objectives were accomplished:

Phase I Objective: A computer-based system to deliver and manage an individualized instructional approach for training inservice teachers in vocational education was developed.

Sub Objective 1: The software and hardware needed to deliver the individualized instructional modules for three certification courses for the inservice training of vocational education instructors in Delaware and North Carolina were developed.

Sub Objective 2: A procedure for evaluating the effectiveness and efficiency of the individualized performance-based modules, as delivered by a computer-based system, was developed.

Phase II Objective: The computer-based system to deliver and manage an individualized instructional approach for training inservice vocational education teachers was field tested.

Sub Objective 1: The feasibility of managing an inservice teacher preparation program for vocational educators using a computer-based approach was ascertained.

The program was designed to focus on individuals who had been recruited to teach in the Howard Career Center, Hodgson Vocational-Technical School, and Delcastle Vocational-Technical School. However, it was made available to all vocational education teachers and prospective teachers in the New Castle County area of northern Delaware. Provisions were made for 20 students at the University of Delaware. The instructional phase of the project was initiated in September 1977 and ended on May 30, 1978. Lead time required the project to be initiated on July 1, 1977 to prepare the delivery system. The program was operated to meet the stated objectives through the following approaches:

1. Utilization of Competency-Based Teacher Education and/or Performance-Based Teacher Education modules stressing an individualized approach to instruction via a computer-managed system.

2. Utilizing advisement processes that will be improved by setting aside blocks of time at each vocational education setting.

An Ad Hoc Advisory Committee was established to work specifically with the program. This committee was composed of one director of a vocational education program, two teacher educators of vocational education, and two vocational education instructors enrolled in the program.

Individuals who were identified to teach at the vocational high schools; those being considered to teach the Fall of 1977, as well as individuals in vocational education in schools in the general geographical area, applied for admission to the program leading to the certification as a Trade and Industrial Teacher in the State of Delaware. Those admitted enrolled in two courses, one of which was offered during the fall semester and one during the spring semester of the 1977-78 school year.

Fall

EDO 380 - Occupational Education Materials and Approaches - 3

Spring

EDO 350 - School Shop Safety - 3

NOTE: Financial support for these courses was not included in the project.

The intent of the courses was to assure that teachers enrolled in the program were provided with the best possible background that can be provided in two semesters.

Alternative structures were developed for course meetings as:

1. Developing performance-based modules to limit the time spent in a University of Delaware classroom and increase the meaningfulness of the course content to inservice needs of teahcers in their unique setting.

2. Reducing the number of class meetings through independent studies aided by instructional modules.

Courses utilized Performance-Based Teacher Education and/or Competency-Based Teacher Education modules to the highest degree possible. The effectiveness of the use of the modules and the instructional process normally carried on was investiaged.

The project was conducted in two phases which involved the development of the computer-managed instructional system and the subsequent field testing of the completed system. The development of the computer-managed system was accomplished through services provided by membership in the DELTA Educational Computing System, which is supported by the Delaware School Auxiliary Association. The primary purpose of DELTA is to engage in research activity dedicated to establishing a computer network. DELTA utilizes a Digital Equipment Corporation (DEC) PDP 11/50 computer system located at the University of Delaware with several remote DECwriter II terminals.

Members of the DELTA staff, working in cooperation with the principal investigator and project coordinator, developed a computer program, using the Basic-Plus language, which would deliver a series of instructional modules and record their completion of the instructional objectives. One terminal was placed at the University of Delaware and another was placed at North Carolina A&T State University for output purposes (see Appendix A).

During the software development process and the installation of the hardware, the DELTA staff began working with the administrative and instructional staff of the University of Delaware in developing the individualized instructional system for the inservice training of vocational education instructors. The Occupational Teacher Education program at the University of Delaware enrolls approximately 200 students using an instructional staff of two teachers. Students are enrolled in four different programs and receive academic preparation at the University of Delaware and receive technical preparation at Delaware Technical and Community College.

The initial activty was to identify a group of interested teachers who were willing to participate in the project. After consultation with several of the faculty and administrators soon after school began in September, a group of teachers was identified representing trade and industrial education. Each student was asked to complete the modules developed in each of the course areas. After the modules were identified, the project coordinator, with the assistance of two instructors, developed an individualized instructional module for each one. The instructional modules consisted of (1) a terminal performance objective, (2) a number of enabling objectives, (3) instructional

resources, (4) learning activities, (5) feedback, and (6) a post-check. Examples of modules for each of the areas of teaching methods, shop safety, and history and philosophy are included in Appendices B, C, and D. The completed modules were assembled and stored in the PDP 11/50 computer.

As the modules were being compiled, the project staff began working with one of the instructors at the University of Delaware to field test the completed modules during the fall and spring semesters. The primary criteria for checking the modules was student readability and utilization.

During the first phase of the project, the modules were reviewed and modifications were made in the content and in particular, the activity sections. The purpose of this review was to update the modules and provide resources available to students at each location who would be using the modules. In addition, discussions were held using University of Delaware instructors and DELTA staff to receive input concerning the design and the content of the instructional modules. The instructors also provided information about instructional media and materials that could be purchased by the staff to further improve the content of the modules. Discussions were also held to clarify the procedures for each instructor using the instructional modules as delivered by the computer.

As these developmental activities were completed, the project staff and instructors began the field testing phase of the project. A decision was made to initiate the field testing during the second half of the fall semester. The students participating in the project received an orientation using the computer terminal. In addition to the orientation, the students were given an opportunity to ask any questions about the CMI system. The selection process for modules was accomplished by having the student sign on at the computer terminal and execute the program where he or she was given a list of the modules (see Appendix E). After selecting the desired program, a list of descriptor words was provided for the instructional modules. The student selected one or more of these descriptors and received a printout of the specific terminal performance objective for that instructional modules. When each student had selected their respective modules, this information was processed and a printout was obtained. The next procedure was to begin the first instructional module. If a student felt that they had already acquired some knowledge or skill needed to perform the terminal performance objective of the instructional module, they could take the post-check from the computer which appraised their level of behavior. Students could complete the post-check and would demonstrate to the instructor that he had sufficiently completed the material required for the module. If the student did not wish to take the post-check, he would receive all instructional packages for the module through the terminal.

After receiving the instructional package printouts, the student would independently complete the work required. In using the instructional package(s), the student initially read the enabling objective and selected learning resources from those listed which were considered appropriate for their learning style. After utilizing the resource, the student applied the knowledge or practiced the skill as directed in the activity section. Upon completion of the learning activity, each

student verified their performance in the feedback section. If the criterion performance as stated in the enabling objective was accomplished successfully, the student advanced to the next instructional package. Students who were unsuccessful turned to a recheck or remedial section and completed the activities as directed by the instructor until mastering the enabling objective.

After successfully completing the enabling objectives for all instructional packages, the student was ready to be evaluated on achievement of the terminal performance objective. The student returned to the instructor for an evaluation of a manipulative skills performance. After completing a manipulative skills post-check, the student received feedback concerning their status. If the results were satisfactory, the next instructional module was obtained by the student. Students who were not successful were directed by the instructor to engage in a remedial route such as completing a specific activity before attempting the final stage again.

All of the 15 students were required to complete at least one instructional module in each of the two course areas. After completing the five modules, the students were permitted to search the additional modules of high interest or return to additional classroom activities.

III. Results of the Project

During the past 12 months, twenty modules of instruction were developed; eight dealing with teaching methods, seven involving school shop safety, and five dealing with the history and philosophy of vocational education. The eight modules dealing with teaching methods were utilized by students enrolled during the fall semester in EDO 380 offered at the University of Delaware and IE 662 offered at North Carolina A&T State University. The seven modules involving school shop safety were utilized in EDO 350 offered at the University of Delaware. During the two semesters, 15 students successfully completed 15 modules. The five modules developing involving history and philosophy were not field tested in cal class setting due to insufficieint enrollment.

As the field testing of the modules progressed, periodic review of the modules by the principal investigator and project coordinator were undertaken to monitor the system in operation and make the necessary adjustments to the problems as they occured. In addition, an evaluation of the approach was made by requesting the participating students to complete a five-part, 15 item questionnaire (see Appendix F).

During the class sessions, an informal disucssion was held by the project coordinator to investigate the utilization of the modules by students during the semester.

An analysis of the observations, written responses, and informal discussions indicated several positive outcomes had occured as a result of field testing the computer-managed delivery system.

The evaluation forms by students incorporated a five-point Lickert Scale; five being the excellent rating. The information collected from the students indicated that most of them felt the experience was beneficial in several ways. The most consistent response to the question

concerning what did students like about the computer-delivery approach was that students could work on an individual basis at their own pace. The responses of the students also indicated that they could understand the instructional modules which had been developed and they felt the modules provided the necessary information required for the content of the courses. During the informal discussion sessions, several students stated that as a result of their brief experience with the instructional modules they had a better understanding of how individualized instruction could be utilized in their own classroom. Several students indicated that they had used performance-based instructional modules in other courses. The opinion of the students was fairly well divided concerning whether they would prefer courses to be completely modularized and delivered via a computer terminal versus the more traditional approach. Student discussions indicated that the modules required considerably more work than just attending a lecture-type course with two or three term papers required during the semester. Another benefit that inservice teachers recognized was the opportunity to use a computer in the instructional process. The majority of the inservice teachers expressed a positive reaction to receiving the instructional modules via the computer terminal. The students, in general, liked the self-paced aspects of the computer-managed system and the immediate responses they received on the computer terminal.

During the project, one persistent problem was observed that was later confirmed by the students in their discussions. The availability of a single computer terminal for 10 to 15 individuals caused problems in students being able to access the instructional modules. This problem caused students to spend a great deal of time outside of class obtaining the instructional modules. One obvious solution to this problem would be to provide additional terminals, locating them in easily accessible areas convenient to most of the students. Another major problem occured with students in seeking help or assistance from the instructors when they had serious problems or questions. This problem resulted in students not being able to complete feedback sections of the modules correctly or within the time limits that had been specified. A solution to this problem would require instructors to observe more carefully the progress of each student and to develop alternative activities that could meet the needs of the students. Another solution would be to increase the time and provide alternate elective activities in the instructional modules. Additional problems were encountered by inservice teachers (students) in not being able to obtain modules in only the areas they felt they needed for specific course content.

The agreement or disagreement by students as to the content of a specific course is a major problem underlying the certification process. The only possible answer to this problem may be the development of more adequate diagnostic and assessment tools for entering all newly hired instructors. The question here is difficult to answer due to the basic assumption that students perceive what they need or do not need relative to professional teacher education.

During the last phase of the project, several modifications were made to the modular format to allow for greater flexibility in student

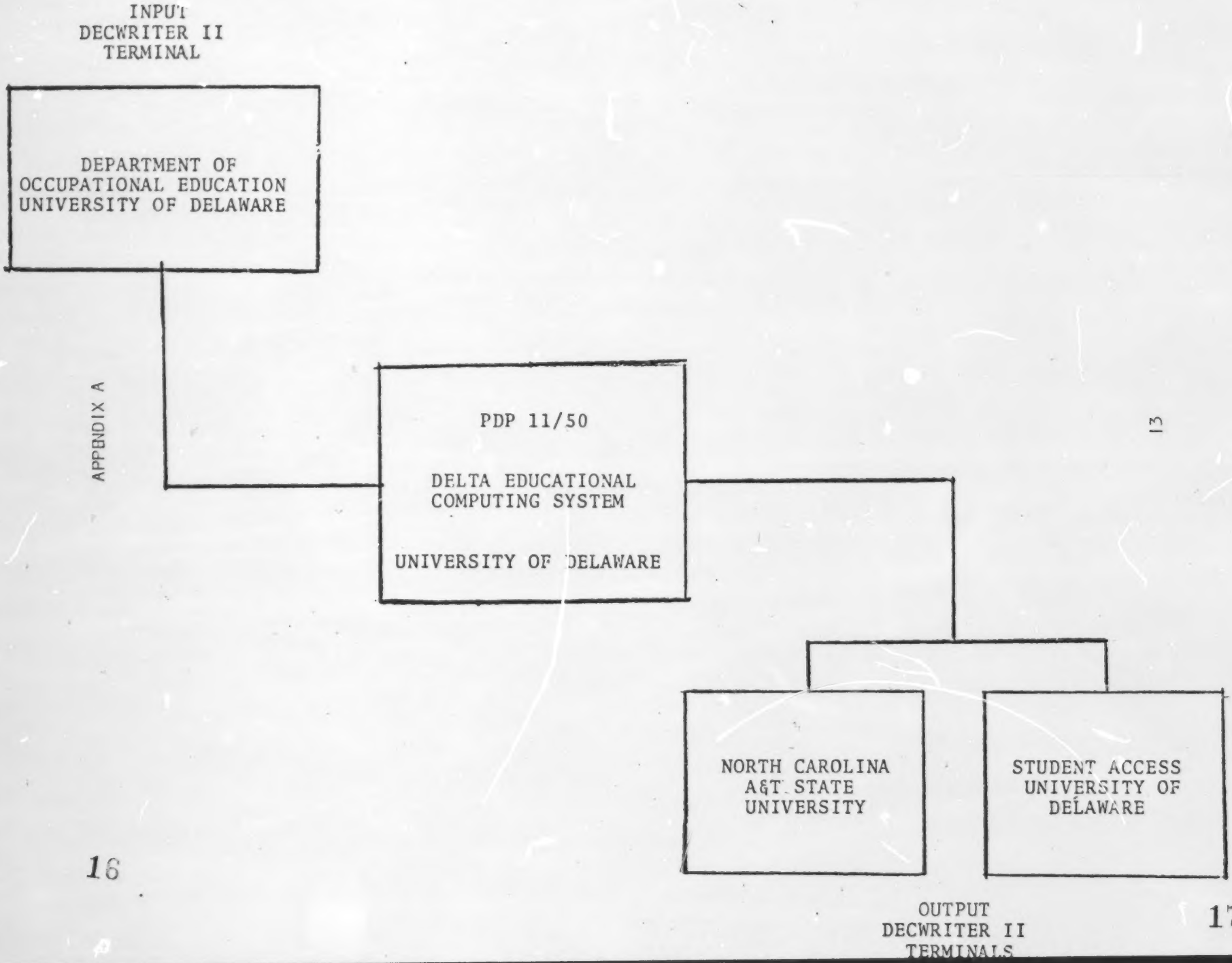
utilization of the instructional packages. Modifications were also made in the program for students to more easily access portions of the total instructional system, i.e., TPO, enabling objective, etc.

A considerable amount of time was spent in developing a Fortran program so that the instructional delivery system could be transported from one university or institution to another.

IV. Conclusions and Recommendations

The results of this project indicate that a viable computer-managed delivery system for improving the inservice training of vocational school personnel can be developed and implemented successfully. Although a small number of students were involved in only two courses, it does serve as a model for other vocational classroom developments and teacher educators to emulate in providing professional teacher competencies at the higher education level. The project demonstrated that it was feasible to develop a computer-managed instructional system that can individualize instruction for students and provide activities that were consistent with the content of professional courses required for certification. Although initial efforts in developing and field testing the system were successful, additional activities were needed to evaluate the effectiveness and efficiency of a computer-based instructional system for a total approach to inservice teacher preparation.

The modified system should be evaluated in terms of its costs as related to its benefits and effectiveness. Research could be conducted which would examine the effectiveness of the system in meeting the varied needs of inservice teachers in the field of vocational education. Major questions which can be addressed in the future would involve the efficiency of the approach in developing better inservice teachers, comparison of a computer-based system versus the traditional approach, and determining if the individualized instructional approach provides better performance on the part of vocational instructors in their classrooms with students.


INPUT
DECWRITER II
TERMINAL
DEPARTMENT OF
OCCUPATIONAL EDUCATION
UNIVERSITY OF DELAWARE
PDP 11/50
DELTA EDUCATIONAL
COMPUTING SYSTEM
UNIVERSITY OF DELAWARE
NORTH CAROLINA
A&T STATE
UNIVERSITY
STUDENT ACCESS
UNIVERSITY OF
DELAWARE
OUTPUT
DECWRITER II
TERMINALS

```
###BEGIN PRE/OS1###
ANSWERS#0
NPRE#
ENO#3
<
```

NOTE: THERE IS NO PRE-CHECK FOR THIS MODULE.
THE FOLLOWING IS THE MODULES OF INSTRUCTION
YOU SHOULD TAKE BACK TO CLASS AND WORK ON.

```
<
$$$END PRE/OS1$$$
####BEGIN ENO/OS1####
#ENO#3
<
```

OBJECTIVE

AFTER COMPLETING THE REQUIRED READING, CRITIQUE A GIVEN LESSON PLAN.

RESOURCES

SEE THE INFORMATION CONTAINED IN THE ACTIVITY SECTION.

ACTIVITY

A. READ THE INFORMATION GIVEN BELOW.

THE WHY'S AND HOW'S OF LESSON PLANNING

IN ALL OF THE LITERATURE, NO TWO EDUCATORS AGREE COMPLETELY ON THE CONTENT AND FORM OF A LESSON PLAN; HOWEVER, THE ONE POINT THEY ALL AGREE ON IS THAT ALL TEACHERS NEED TO DO SOME FORM OF LESSON PLANNING.

LIKEWISE, BEGINNING TEACHERS NEED TO PREPARE THOROUGH PLANS TO GUIDE THEIR INSTRUCTIONAL EFFORTS. IN ORDER TO MAKE A PLAN, YOU HAVE TO THINK THROUGH (1) WHERE YOU'RE GOING, (2) HOW YOU'RE GOING TO GET THERE, AND (3) HOW YOU'LL KNOW WHEN YOU'VE ARRIVED. YOU ARE VISUALIZING JUST WHAT YOU WILL DO WHEN YOU WALK INTO THE CLASSROOM. IN ADDITION, THROUGH GOOD PLANNING YOU CAN ANTICIPATE PROBLEMS AND PLAN IN ADVANCE TO ELIMINATE OR OVERCOME THEM. WHEN YOU HAVE TO EXPLAIN MATERIAL TO SOMEONE ELSE, AN IN-DEPTH COMPREHENSION OF THE MATERIAL IS NEEDED; THIS TAKES CAREFUL PLANNING. IT IS THROUGH THE PLANNNING PROCESS THAT ONE REALLY MASTERS THE MATERIAL. PLANNING ALSO ALLOWS YOU TO ANTICIPATE WHAT YOUR NEEDS WILL BE FOR SUPPLIES, TOOLS, EQUIPMENT, AND OTHER SUPPORT MATERIALS. ALL OF THESE ORGANIZATIONAL EFFORTS ARE ULTIMATELY A TIME SAVER.

IN THE CLASSROOM, THE PLAN SERVES AS A HANDY GUIDE DURING THE PRESENTATION. THE FACT THAT YOUR LESSON IS WELL PLANNED SHOULD GIVE YOU CONFIDENCE, GIVE YOUR STUDENTS A SENSE OF SECURITY, AND GIVE YOUR LESSON A SENSE OF PURPOSE AND DIRECTION.

FINALLY, SINCE DAILY PLANS GROW OUT OF UNIT PLANS OR WEEKLY PLANS, DAILY PLANS HELP KEEP THE TEACHER ON TRACK IN HIS/HER OVERALL GOALS; THUS PROVIDING FOR CONTINUITY IN THE COURSE AND IN STUDENT LEARNING

A LESSON PLAN IS A SIMPLY STATED, CLEARLY WRITTEN, FLEXIBLE, AND INDIVIDUALIZED TEACHER AID FOR CONDUCTING A CLASS. IT IS INDIVIDUALIZED IN TWO SENSES: (1) IT IS BASED ON THE INDIVIDUAL NEEDS, INTERESTS, AND ABILITIES OF THE STUDENTS AND (2) IT IS FORMATTED ACCORDING TO THE GOALS, NEEDS, AND STYLE OF THE TEACHER. ALTHOUGH FORMS FOR WRITING LESSON PLANS VARY, BASICALLY THERE ARE THREE MAJOR SECTIONS TO EACH PLAN: (1) LESSON APPROACH; LESSON DEVELOPMENT; AND (3) LESSON SUMMARY. IN ADDITION, LESSON PLANS USUALLY INCLUDE SOME PRELIMINARY INFORMATION. THE FOLLOWING IS A DISCUSSION OF THIS PRELIMINARY INFORMATION AND OF THE THREE MAJOR SECTIONS AND THEIR COMPONENTS.

PRELIMINARY INFORMATION.
---------- SOMEWHERE AT THE TOP OF YOUR LESSON PLAN, YOU NEED TO IDENTIFY CERTAIN INFORMATION. VARIOUS FORMS HAVE YOU LIST THE SUBJECT BEING TAUGHT, THE DATE THE PLAN WILL BE USED, THE UNIT TITLE, THE TITLE OF THE LESSON, THE GRADE LEVEL OF THE STUDENTS, THE HOUR OR PERIOD THE CLASS MEEETS, OR THE TEACHER'S NAME.

LESSON APPROACH.
---------- THE CRITICAL COMPONENTS IN THE LESSON APPROACH SECTION OF PLANNING ARE THE AIMS OR OBJECTIVES AND THE LESSON INTRODUCTION. THE AIMS, OBJECTIVES, OR GOALS, WHICHEVER YOU CALL THEM, ARE THE "WHERE ARE YOU GOING" PORTION OF YOUR PLAN. THE OBJECTIVES FOR THE DAILY LESSON PLAN ARE DRAWN FROM THE BROADER OBJECTIVES OF THE UNIT PLAN. STUDENTS CAN AND SHOULD BE INVOLVED IN SELECTING OBJECTIVES FOR THE DAILY PLAN. THESE OBJECTIVES SHOULD BE STATED IN TERMS OF THE STUDENT, NOT THE TEACHER. YOU DO NOT STATE WHAT YOU WILL DO, BUT WHAT STUDENTS WILL BE ABLE TO DO AS A RESULT OF THE INSTRUCTION. ALSO, THE OBJECTIVES MUST BE STATED IN TERMS OF PERFORMANCE OR OF OBSERVABLE BEHAVIOR. THE VERBS "DEVELOP" AND "DEMONSTRATE" SHOW ACTION AND INDICATE SOMETHING TO BE PERFORMED. THIRDLY, OBJECTIVES NEED TO CONTAIN INFORMATION CONCERNING THE CONDITIONS UNDER WHICH THE PERFORMANCE WILL BE ACCOMPLISHED. FOURTHLY, THE OBJECTIVE MUST INCLUDE THE CRITERION ON THE BASIS OF WHICH SATISFACTORY ATTAINMENT OF THE OBJECTIVE WILL BE JUDGED. TWO FINAL POINTS: (1) EACH STATEMENT SHOULD CONTAIN ONLY ONE OBJECTIVE, ONE TYPE OF PERFORMANCE AND (2) ANY STATEMENT SHOULD BE WRITTEN SO THAT IT CAN EASILY BE UNDERSTOOD BY BOTH TEACHERS AND STUDENTS.

IN THE INTRODUCTION COMPONENT OF YOUR LESSON PLAN, YOU DETERMINE HOW YOU WILL ACQUAINT YOUR STUDENTS WITH THE SPECIFIED OBJECTIVE(S) FOR THE LESSON. ONE MAJOR PURPOSE OF THE INTRODUCTION IS TO ORIENT STUDENTS TO (1) WHAT THE OBJECTIVES OF THE LESSON ARE, (2) HOW THE LESSON RELATES TO THEM, (3) HOW IT RELATES TO THEIR PAST CLASSROOM ACTIVITIES, AND (4) WHAT WILL BE EXPECTED OF THEM. TWO OTHER FUNCTIONS OF THE INTRODUCTION ARE TO GET THE ATTENTION OF THE STUDENTS AND TO MOTIVATE THEM SUFFICIENTLY TO HOLD THEIR ATTENTION. THERE ARE VARIOUS METHODS WHICH CAN BE USED TO ACHIEVE THESE PURPOSES. PERFERABLY, STUDENTS SHOULD BE INVOLVED IN SOME WAY.

B. GIVEN BELOW IS A LESSON PLAN WHICH IS PARTIALLY INCORRECT AND/OR INCOMPLETE BASED ON THE ABOVE READING, CRITIQUE, IN WRITING, THIS LESSON PLAN. IT IS SUGGESTED THAT YOU CRITIQUE EACH SECTION IN TURN, INDICATE STRENGTHS AS WELL AS WEAKNESSES. PLEASE ANSWER ON A SEPARATE SHEET OF PAPER.

LESSON PLAN

CLASS: 5TH PERIOD

LEVEL: 10TH GRADE

DATE: JANUARY 8, 1972

TEACHER: MR. NELSON

LESSON OBJECTIVE: TO ACQUAINT THE LEARNER WITH THE TECHNIQUES FOR DEVELOPING AN ACCEPTABLE RESUME.

TECHNIQUE: LECTURE

CONTENT OUTLINE:

I. BASIC INFORMATION

A. DEFINE A RESUME

A RESUME OR PERSONAL DATA SHEET IS A SUMMARY OR ABBREVIATED ACCOUNT OF A PERSON'S CAREER AND QUALIFICATIONS TYPICALLY USED WHEN APPLYIN FOR A POSITION.

B. INDICATE WHY A RESUME IS IMPORTANT

SINCE AN EMPLOYER MAY GRANT PERSONAL INTERVIEWS TO THE BEST-QUALIFIED APPLICANTS, A WELL-WRITTEN RESUME MAY BE YOUR ONLY OPPORTUNITY TO SECURE EMPLOYMENT. THE RESUME MUST CONVEY TO THE PROSPECTIVE EMPLOYER THAT YOU HAVE ABILITIES THAT MEET HIS FIRM'S NEEDS.

II. RESUME CONTENT

A. PERSONAL INFORMATION

1. NAME
2. ADDRESS
3. TELEPHONE NUMBER
4. EDUCATION
5. AGE
6. WEIGHT
7. HEIGHT
8. HEALTH
9. MARITAL STATUS

B. SUBJECTS STUDIED RELATING TO DESIRED EMPLOYMENT

C. STUDENT ACTIVITIES

D. SPECIAL SKILLS

E. WORK EXPERIENCE

F. REFERENCES

SUMMARY: QUESTION AND ANSWER

KEY QUESTIONS: WHAT IS A RESUME?
WHY IS A RESUME IMPORTANT?
WHAT SIX ITEMS MUST BE CONTAINED IN A RESUME? WHY?

HOMEWORK ASSIGNMENT: HAVE STUDENTS DEVELOP THEIR OWN RESUME.

EVALUATE: TEACHER WILL JUDGE IF RESUMES CONTAIN APPROPRIATE INFORMATION.

RESOURCES: NONE

CHECK

COMPARE YOUR COMPLETED WRITTEN CRITIQUE WITH THE MODEL CRITIQUE GIVEN BELOW. YOUR RESPONSE NEED NOT EXACTLY DUPLICATE THE MODEL CRITIQUE; HOWEVER, YOU SHOULD HAVE COVERED THE SAME MAJOR POINTS. IF YOU MISSED SOME POINTS OR HAVE QUESTIONS ABOUT ANY ADDITIONAL POINTS YOU MADE, REVIEW THE MATERIAL AGAIN OR CHECK WITH YOUR INSTRUCTOR.

MODEL CRITIQUE

THERE IS A STATED OBJECTIVE, BUT THE OBJECTIVE IS NOT STATED IN TERMS OF STUDENT BEHAVIOR. FURTHERMORE, NEITHER THE CONDITIONS NOR THE CRITERIA ARE INCLUDED IN THE OBJECTIVE.

THE INTRODUCTION HAS BEEN OVERLOOKED COMPLETELY; THUS, NO ORIENTATION OR MOTIVATION IS PROVIDED.

THE TECHNIQUE SELECTED AND THE CONTENT OUTLINE ARE PASSIBLE. HOWEVER, A COMBINATION OF TECHNIQUES AND SOME PROVISION FOR STUDENT INVOLVEMENT WOULD BE PREFERABLE. THE CONTENT OUTLINE IS APPROPRIATE FOR THE LECTURE METHOD.

THE LEARNING EXPERIENCE IN WHICH STUDENTS CAN APPLY WHAT THEY'VE LEARNED IS THE HOMEWORK ASSIGNMENT. YOU MAY HAVE NOTED THAT THIS IS A QUESTIONABLE APPLICATION ACTIVITIY IN THAT THESE STUDENTS HAVE "HEARD" ABOUT RESUMES BUT HAVE NEVER BEEN SHOWN A SAMPLE. BASED ON THE TYPE OF LESSON GIVEN, IT WOULD PROBABLY BE PREFERABLE FOR THEM TO MAKE THEIR INITIAL ATTEMPTS IN CLASS WITH THE TEACHER AVAILABLE.

THE SUMMARY IS INCLUDED, AND PROVISION IS MADE FOR STUDENT INVOLVEMENT. HOWEVER, THE STUDENTS HAVE JUST SAT PASSIVELY THROUGH A LECTURE. THIS SUMMARY COULD ENCOURAGE THEM TO PARROT BACK WHAT THEY'VE HEARD SINCE IT FOLLOWS THE CONTENT OUTLINE SO CLOSELY. THE SUMMARY FAILS TO SPECIFICALLY RELATE WHAT HAS HAPPENED IN THE LESSON TO THE LESSON OBJECTIVES.

THE EVALUATION METHOD IS PROVIDED, BUT IT IS TOO VAGUE TO BE MEASURABLE. WHAT CRITERIA WILL THIS TEACHER USE TO JUDGE THE RESUMES? HOW DOES HE KNOW WHAT IS APPROPRIATE?

A RESOURCES CATEGORY IS INCLUDED, BUT NO RESOURCES WERE USED. RESOURCES SHOULD HAVE BEEN USED. AT THE VERY LEAST, SAMPLE RESUMES SHOULD HAVE BEEN PROVIDED; OR STUDENTS SHOULD HAVE BEEN GIVEN INFORMATION REGARDING WHERE THEY COULD LOCATE SAMPLES. THE LECTURE COULD HAVE BEEN ENHANCED BY THE USE OF A TRANSPARENCY OF A SAMPLE RESUME. TOO LITTLE OF THE STUDENTS' SENSES ARE UTILIZED; THEY GET TO EXERCISE ONLY THEIR EARS UP UNTIL THE SUMMARY.

FINALLY, THERE IS NO INDICATION OF THE TIME INVOLVED FOR ACTIVITIES, NOR IS SPACE PROVIDED FOR THE TEACHER TO MAKE EVALUATIVE NOTES ON THE PLAN'S SUCCESS, NOR DOES THE PLAN SEEM TO PROVIDE FOR INDIVIDUAL DIFFERENCES.

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OBJECTIVE

UTLIZING YOUR PRESENT KNOWLEDGE OF HOW TO TEACH, WRITE A PRELIMINARY LESSON PLAN.

RESOURCES

SEE THE INFORMATION CONTAINED IN THE ACTIVITY SECTION.

ACTIVITY

A. SELECT STUDENT PERFORMANCE OBJECTIVE(S) FOR A LESSON.

B. EVERY LESSON PLAN IS BUILT AROUND ONE OR MORE STUDENT PERFORMANCE OBJECTIVES. AT THIS POINT, YOU NEED TO SELECT THE STUDENT PERFORMANCE OBJECTIVE(S) OF THE LESSON YOU WILL BE PLANNING. TO DO THIS, YOU MAY SELECT FROM ANY UNIT PLAN OBJECTIVES YOU MAY HAVE DEVELOPED, OR YOU MAY SELECT ANOTHER OBJECTIVE(S), WITH THE PERMISSION OF YOUR INSTRUCTOR. REMEMBER, UNIT PLAN OBJECTIVES ARE USUALLY MORE GENERAL THAN DAILY LESSON OBJECTIVES. IF YOU SELECT FROM UNIT PLAN OBJECTIVES YOU DEVELOPED, THESE OBJECTIVE(S) MAY NEED REFINEMENT.

C. YOU ARE NOW READY TO PLAN, IN WRITING, A LESSON THAT WILL ENABLE STUDENTS TO ACHIEVE THE OBJECTIVE(S) YOU SELECTED. YOUR LESSON PLAN SHOULD INCLUDE ALL NECESSARY INFORMATION. SEE THE LESSON PLAN IN THE FIRST INSTRUCTIONAL PACKAGE FOR A SAMPLE FORMAT YOU MAY FOLLOW.

CHECK

AFTER YOU HAVE DEVELOPED YOUR PRELIMINARY LESSON PLAN, ARRANGE TO HAVE YOUR INSTRUCTOR REVIEW AND EVALUATE YOUR PLAN USING THE CHECKLIST GIVEN BELOW. ALL ITEMS MUST RECEIVE FULL OR N/A RESPONSES. IF ANY ITEM RECEIVES A NO OR PARITAL RESPONSE, THE TEACHER AND INSTRUCTOR SHOULD MEET TO DETERMINE WHAT ADDITIONAL ACTIVITIES THE TEACHER NEEDS TO COMPLETE IN ORDER TO REACH COMPETENCY IN THE WEAK AREAS.

CHECKLIST FOR PRELIMINARY LESSON PLAN

	LEVEL OF PERFORMANCE			
	N/A	NO	PARTIAL	FULL
1. THERE IS A STATED OBJECTIVE IN THE PLAN	____	____	____	____
2. THE OBJECTIVE IS STATED IN TERMS OF A SINGLE STUDENT BEHAVIOR	____	____	____	____
3. THE OBJECTIVE CONTAINS THE CONDITIONS UNDER WHICH THE OBJECTIVE WILL BE ACHIEVED, AND THE CRITERIA VIA WHICH ACHIEVEMENT WILL BE MEASURED	____	____	____	____
4. THERE IS AN INTRODUCTION	____	____	____	____
5. THE INTRODUCTION CONTAINS INFORMATION OR TECHNIQUES MEANT TO MOTIVATE STUDENTS AND ORIENT THEM TO THE LESSON OBJECTIVE	____	____	____	____
6. THERE IS A STATEMENT IN THE PLAN INDICATING WHAT METHODS, TECHNIQUES, OR LEARNING EXPERIENCES WILL BE USED TO HELP STUDENTS ACHIEVE THE LESSON OBJECTIVE	____	____	____	____
7. STUDENTS ARE GIVEN AN OPPORTUNITY TO APPLY WHAT THEY LEARNED	____	____	____	____
8. THE NECESSARY CONTENT FOR THE METHODS SELECTED IS INCLUDED IN THE PLAN	____	____	____	____
9. THERE IS A SUMMARY	____	____	____	____
10. THE SUMMARY CONTAINS INFORMATION OR TECHNIQUES MEANT TO PULL LOOSE ENDS TOGETHER, RESTATE MAJOR POINTS, AND RELATE THE LESSON TO THE OBJECTIVE	____	____	____	____
11. A METHOD OF EVALUATION IS PROVIDED	____	____	____	____
12. RESOURCES ARE INCLUDED IN THE PLAN	____	____	____	____

OBJECTIVE

DURING THE REMAINDER OF YOUR TEACHER TRAINING EXPERIENCE, COMPLETE A MINIMUM OF FIVE MODULES CONTAINING THOSE SKILLS NECESSARY TO WRITE EFFECTIVE DAILY LESSON PLANS.

RESOURCES

HANDOUT #5 - "MODULES RELATED TO LESSON PLANNING"

HANDOUT #6 - "RECORD FORM"

ACTIVITY

A. AT THIS POINT YOU HAVE LEARNED HOW TO WRITE A SKETCHY LESSON PLAN. IN ORDER TO WRITE A REALLY THOROUGH AND EFFECTIVE LESSON PLAN, YOU WILL NEED TO KNOW HOW TO DEVELOP EACH OF THE LESSON PLAN COMPONENTS. FOR EXAMPLE, WHEN YOU GET TO THE DEVELOPMENT SECTION OF YOUR LESSON PLAN, YOU WILL NOT BE ABLE TO SELECT THE MOST APPROPRIATE TEACHING TECHNIQUE IF YOU ARE NOT WELL-VERSED IN THE GREAT VARIETY OF TECHNIQUES AVAILABLE TO YOU. THE MODULES LISTED BELOW CONTAIN MANY OF THE COMPETENCIES YOU WILL NEED IN LESSON PLANNING. PLEASE READ THROUGH THIS LIST.

MODULES RELATED TO LESSON PLANNING

DETERMINE NEEDS AND INTERESTS OF STUDENTS	PSOS3
DEVELOP STUDENT PERFORMANCE OBJECTIVES	PSOS11
INTRODUCE A LESSON	PSOS15
SUMMARIZE A LESSON	PSOS16
ESTABLISH STUDENT PERFORMANCE CRITERIA	PSOS5
ASSESS STUDENT PERFORMANCE: KNOWLEDGE	PSOS6
ASSESS STUDENT PERFORMANCE: ATTITUDES	PSOS7
ASSESS STUDENT PERFORMANCE: SKILLS	PSOS8
EVALUATE YOUR INSTRUCTIONAL EFFECTIVENESS	PSOS10
PROVIDE INSTRUCTION FOR SLOWER AND MORE CAPABLE LEARNERS	PSOS4
INDIVIDUALIZE INSTRUCTION	PSOS2
SELECT STUDENT INSTRUCTIONAL MATERIALS	PSOS13
PREPARE TEACHER MADE INSTRUCTIONAL MATERIALS	PSOS14
DIRECT STUDENTS IN INSTRUCTING OTHER STUDENTS	PSOS23

GUIDE STUDENT STUDY PSOS24

DIRECT STUDENT LABORATORY EXPERIENCE PSOS25

EMPLOY ORAL QUESTIONING TECHNIQUES PSOS17

B. WITH YOUR INSTRUCTOR, DECIDE WHICH MODULES YOU WILL NEED TO COMPLETE TO ACQUIRE THE COMPETENCY NECESSARY TO WRITE A DETAILED LESSON PLAN. THEN MAKE A LIST OF THOSE MODULES. COMPLETE THESE MODULES.

CHECK
WHEN YOU HAVE SUCCESSFULLY COMPLETED ALL THE MODULES ON YOUR LIST, HAVE YOUR INSTRUCTOR CHECK AND APPROVE YOUR WORK.

_____
INSTRUCTOR'S APPROVAL

<
$$$$END ENO/OS1$$$$
$$$$$BEGIN PST/OS1$$$$$
ANSWERSD,A,L,P4/4
<

NOTE: THERE IS NO POST-CHECK FOR THIS MODULE. SEE YOUR INSTRUCTOR FOR THE CORRECT CODE OF LETTERS TO FEED BACK INTO THE COMPUTER AS YOUR RESPONSES.

<
$$$$$END PST/OS1$$$$$

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$$$BEGIN PRE/OS18$$$
ANSWERS$0
ENO$3
<
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NOTE: THERE IS NO PRE-CHECK FOR THIS MODULE.
THE FOLLOWING IS THE MODULE OF INSTRUCTION
YOU SHOULD TAKE BACK TO CLASS AND WORK ON.

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<
$$$END PRE/OS18$$$
$$$$BEGIN ENO/OS18$$$$
$ENO$3
<
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OBJECTIVE

AFTER COMPLETING THE REQUIRED READING, DEMONSTRATE YOUR KNOWLEDGE OF THE TECHNIQUES AND PROCEDURES FOR PROVIDING FOR STUDENT SAFETY NEEDS.

RESOURCES

SEE THE INFORMATION CONTAINED IN THE ACTIVITY SECTION

AND

BOOKLET: OCCUPATIONAL SAFETY AND HEALTH STANDARDS
CODE OF FEDERAL REGULATIONS, TITLE 29, PARTS 1910
AND 1926. WASHINGTON, DC: OCCUPATIONAL SAFETY AND
HEALTH ADMINISTRATION, LATEST EDITION.

ACTIVITY

A. READ THE INFORMATION GIVEN BELOW AND THE BOOKLET ENTITLED, "OCCUPATIONAL SAFETY AND HEALTH STANDARDS."

PROVIDING FOR STUDENT SAFETY NEEDS

THE FOLLOWING INFORMATION DISCUSSES THE SAFETY NEEDS OF VOCATIONAL STUDENTS AND YOUR ROLE, AS A VOCATIONAL INSTRUCTOR, IN MEETING THOSE NEEDS.

FIRST, THERE ARE SEVERAL SAFETY OBJECTIVES WHICH ARE COMMON TO ALL VOCATIONAL PROGRAMS. THEY ARE THE FOLLOWING:

- FORM, BY TEACHER EXAMPLES, A SAFETY CONSCIOUSNESS IN STUDENTS
- INSTRUCT STUDENTS IN ACCIDENT PREVENTION BY STRESSING THE CORRECT (SAFE) WAY TO PERFORM A TASK
- PROVIDE SAFETY INSTRUCTION IN ORDER TO HELP STUDENTS:

- ACQUIRE A SENSE OF RESPONSIBILITY FOR THEIR OWN AND OTHERS' SAFETY
- UNDERSTAND THAT THE EFFECTIVE WAYS OF DOING THINGS ARE THE SAFE WAYS
- RECOGNIZE HAZARDOUS SITUATIONS
- USE SAFE PRACTICES IN THEIR OUT-OF-SCHOOL ACTIVITIES

- INSTRUCT STUDENTS ON WHAT TO DO IN CASE OF ACCIDENTS
- PROVIDE INFORMATION ON GENERAL SAFETY RULES
- PROVIDE INFORMATION ON SPECIFIC SAFETY PRACTICES FOR TOOLS, APPLIANCES, AND MACHINES
- DEVELOP SOME MEANS FOR EVALUATING EACH STUDENT'S KNOWLEDGE, SKILLS, AND ATTITUDES TOWARD SAFETY

A DESCRIPTION OF TECHNIQUES FOUND TO BE SUCCESSFUL IN ACHIEVING THE ABOVE OBJECTIVES FOLLOWS. KEEP IN MIND THAT THIS IS GENERAL INFORMATION AND YOU MAY HAVE TO ADD TO IT OR ADAPT IT FOR YOUR OCCUPATIONAL SPECIALTY.

SAFETY CONSCIOUSNESS.

ONE OF THE BASIC BUILDING BLOCKS FOR SAFETY CONSCIOUSNESS IS A STRONG SAFETY ATTITUDE. IF A STUDENT'S ATTITUDE TOWARD SAFETY IS A POSITIVE ONE, HE/SHE IS MORE MOTIVATED TO LEARN NEW SAFETY SKILLS.

IT IS ALSO IMPORTANT FOR STUDENT TO OBSERVE SAFETY. IF THE STUDENTS SEE YOU, THE INSTRUCTOR, WITH THINGS ORGANIZED SAFELY AND USING MATERIALS AND EQUIPMENT SAFELY, THEY WILL BEGIN TO DEVELOP SAFETY CONSCIOUSNESS. SOME SPECIFIC ATTITUDES WHICH STUDENTS NEED TO DEVELOP ARE:

(1) ACCIDENTS ARE SELDOM ACCIDENTAL
(2) ACCIDENTS ARE NOT AN INEVITABLE PART OF EVERDAY LIFE
(3) ACCIDENTS, FOR THE MOST PART, ARE CAUSED BY PEOPLE
(4) ACCIDENTS CAN BE PREVENTED
(5) EVERYONE IS RESPONSIBLE FOR PREVENTING ACCIDENTS, TO HIMSELF/HERSELF AND OTHERS

KEEP IN MIND, HOWEVER, THAT GOOD ATTITUDES DO NOT FORM OVERNIGHT. THEY ARE THE RESULT OF A LONG, PATIENT TEACHING-PRACTICE PROCESS AND MOTIVATION. REMEMBER, TOO, THAT ALL YOUR TEACHING SHOULD BE POSITIVE. THIS MEANS AVOID LONG LISTS OF RULES, WARNINGS, AND THREATS. SAFE CONDUCT MUST BE SEEN AS DESIRABLE BY STUDENTS, NOT MOTIVATED BY SCHOOL GRADES OR BY PERSONAL FEAR.

GENERAL SAFETY REGULATIONS.

AT THE BEGINNING OF THEIR VOCATIONAL COURSES, ALL STUDENTS CAN BENEFIT FROM GENERAL SAFETY INSTRUCTION. FOR THIS INSTRUCTION YOU SHOULD CAFEFULLYY PREPARE THE WORKING ENVIRONMENT (CLASSROOM AND/OR LABORATORY) SO THAT IT IS OBVIOUSLY SAFE AND WELL ORGANIZED.

ONE OF THE FIRST THINGS YOU SHOULD DO IS FIND OUT WHETHER ANY OF YOUR STUDENTS HAVE ANY PHYSICAL CONDITIONS WHICH WILL INTERFERE WTIH THEIR ACTIVITIES IN YOUR PROGRAM. THIS INFORMATION CAN MOST OFTEN BE OBTAINED FROM THE STUDENT'S SCHOOL RECORDS. ONCE YOU HAVE IDENTIFIED ANY PROBLEMS, YOU MUST RESPOND BY TAKING ANY APPROPRIATE SAFETY PRECAUTIONS.

THE FIRST SAFETY LESSON SHOULD COVER GENERAL SAFETY PROCEDURES, RULES, AND REGULATIONS. IT SHOULD ALSO INCLUDE INFORMATION ABOUT THE SAFETY FEATURES OF THE LABORATORY ITSELF. THESE FEATURES INCLUDE THE EMERGENCY EXITS; THE PROPER ROUTE TO TAKE TO GET OUT OF THE LABORATORY QUICKLY; WHERE THE ELECTRICAL "PANIC SWITCHES" ARE LOCATED AND HOW TO USE THEM; WHERE THE CLOSEST FILE ALARM IS LOCATED; AND HOW TO USE ANY SPECIAL SAFETY EQUIPMENT SUCH AS SHOWERS. IN SOME INSTANCES YOU MIGHT ALSO WANT TO INCLUDE A SPECIAL LESSON ON FIRE PREVENTION AND CONTROL. ON AN EXAM COVERING INTRODUCTORY SAFETY, THE STUDENTS SHOULD SHOW 100% COMPREHENSION BEFORE BEING ALLOWED TO WORK IN THE LABORATORY.

EQUIPMENT SAFETY.

THE HANDS-ON APPROACH TO VOCATIONAL SKILL DEVELOPMENT REQUIRES THE USE OF MANY TOOLS, APPLIANCES, AND MACHINES. IN ORDER FOR STUDENTS TO USE THIS EQUIPMENT SAFELY, SAFETY PROCEDURES FOR EACH PIECE OF EQUIPMENT SHOULD BE DEVELOPED AND IMPLEMENTED.

STUDENTS TEND TO ASSUME THAT HAND TOOLS ARE NOT DANGEROUS. THIS ASSUMPTION MAY LEAD TO THE DEVELOPMENT OF A CASUAL ATTITUDE REGARDING THEIR USE AND OPERATION. HOWEVER, HAND TOOLS ARE THE MAJOR CAUSE OF MINOR INJURIES IN VOCATIONAL TRAINING SITUATIONS. THEREFORE, YOU MUST STRESS THE NEED FOR SAFETY WITH THESE TOOLS THROUGH GOOD DEMONSTRATIONS OF THEIR USE. YOUR DEMONSTRATION SHOULD BE FOLLOWED BY STUDENT DEMONSTRATION TO SHOW THEY UNDERSTAND. ALSO, REPEATED, SUPERVISED PRACTICE WILL HELP YOUR STUDENTS DEVELOP A POSITIVE SAFETY ATTITUDE TOWARD HAND TOOLS.

ANOTHER TECHNIQUE TO USE TO EMPHASIZE SAFETY IS TO CAREFULLY ORGANIZE THE STORAGE AND USE OF HAND TOOLS. THE USE OF THINGS SUCH AS TOOLS RACKS, TOOL CRIBS, AND PANELS ALLOWS YOU TO MAINTAIN CONTROL OF WHO USES THESE TOOLS AND TO KEEP THE SHOP CLEAR OF UNUSED TOOLS.

WHEN WORKING WITH POWER TOOLS, CERTAIN ADDITIONAL SAFETY PRACTICES ARE NEEDED. EVERY PIECE OF POWER EQUIPMENT SHOULD HAVE A SET OF SAFETY PRACTICES DEVELOPED FOR IT. A DEMONSTRATION OF THE MACHINE SHOULD INCLUDE THESE SAFETY PRACTICES. ALSO, EACH STUDENT SHOULD BE REQUIRED TO PASS A TEST ON EACH MACHINE BEFORE BEING ALLOWED TO USE IT. STUDENTS SHOULD ALSO BE AWARE OF THE NECESSITY FOR DISCONNECTING POWER EQUIPMENT WHEN NOT IN USE AND OPERATING IT IN DRY SURROUNDINGS. ALSO, SEE TO IT THAT ALL TOOLS ARE CONNECTED TO THE MAIN ELECTRICAL SWITCH AND TO A "PANIC SWITCH." POWER TOOLS SHOULD BE EQUIPPED WITH GUARDS AND STUDENTS SHOULD NEVER BE ALLOWED TO REMOVE THEM.

AS AN ADDITIONAL SAFETY PRACTICE, YOU SHOULD CAREFULLY LOCATE HEAVY MACHINES. THEY SHOULD BE PLACED AT A SAFE DISTANCE FROM OTHER MACHINES, AND A STANDARD WORKING SPACE SHOULD BE DESIGNATED AROUND EACH MACHINE. IN ADDITION, MACHINE PARTS SHOULD BE IDENTIFIED BY A STANDARD COLOR CODING (I.E., RED FOR ELECTRICAL PARTS, ORANGE FOR MOVING PARTS, AND GREEN FOR OTHER NON-MOVING PARTS).

SAFETY INSTRUCTION IS AN ON-GOING PROCESS THAT ALLOWS YOU TO USE MANY DIFFERENT TEACHING STRATEGIES. THESE STRATEGIES COULD INCLUDE DEMONSTRATIONS, TALKS, FIELD TRIPS, GUEST SPEAKERS, POSTERS, AND LITERATURE. MATERIAL OF THIS TYPE IS AVAILABLE FREE OF CHARGE FROM MACHINE MANUFACTURERS AND THE NATIONAL SAFETY COUNCIL.

GENERAL HOUSEKEEPING.

SINCE MOST SHOPS ARE THE SCENE OF A GREAT DEAL OF ACTIVITY, IT IS IMPORTANT TO PROVIDE FOR THE CLEANING UP OF THE ENTIRE FACILITY AFTER EACH PERIOD AND AT THE END OF EACH DAY. YOU SHOULD INCLUDE THE FOLLOWING HOUSEKEEPING PRACTICES IN YOUR SAFETY PROGRAM.

- PROVIDE FOR SWEEPING THE SHOP FLOORS AT LEAST ONCE EACH CLASS PERIOD IF NECESSARY
- EMPLOY SPECIFIC PROCEDURES TO KEEP THE FLOORS FREE OF OIL, GREASE, WATER, AND OTHER MATERIALS THAT COULD MAKE IT SLIPPERY
- PROVIDE FOR DAILY REMOVAL OF ALL ACCUMULATED SAWDUST, SHAVINGS, METAL CUTTINGS, SEWING SCRAPS, COOKING SCRAPS, AND OTHER WASTE MATERIALS
- PROVIDE DESIGNATED BOXES OR BINS FOR USABLE SCRAP MATERIALS
- PROVIDE ADEQUATE BRUSHES, DUST CLOTHES, AND CLEANING SOLUTIONS FOR MAINTENANCE OF EQUIPMENT

YOU SHOULD POINT OUT OFTEN THE VALUE OF GOOD HOUSEKEEPING AND EMPHASIZE THAT IT IS EVERYONE'S RESPONSIBILITY. REMIND STUDENTS, TOO, THAT ORGANIZED HOUSEKEEPING HELPS STUDENTS TO: (1) DEVELOP SAFETY CONSCIOUSNESS, (2) DEVELOP A SENSE OF PERSONAL RESPONSIBILITY FOR A SAFE ENVIRONMENT, AND (3) AVOID ACCIDENTS.

ALWAYS REMEMBER THAT YOU ARE A MODEL FOR THE STUDENTS SO YOU SHOULD ALWAYS SET A GOOD EXAMPLE.

PERSONAL HABITS.

YOU ALSO NEED TO INSTRUCT YOUR STUDENTS IN PROPER GROOMING AND DRESS FOR THE LABORATORY. STUDENTS SHOULD BE AWARE OF THE HAZARDS OF IMPROPER GROOMING AND DRESS AND SHOULD TAKE APPROPRIATE SAFETY PRECAUTIONS AUTOMATICALLY. THE FOLLOWING ITEMS SHOULD ALWAYS BE REMOVED: (1) NECKTIES, (2) WRISTWATCHES, AND (3) RINGS. SLEEVES SHOULD ALWAYS BE ROLLED UP ABOVE THE ELBOWS, AND LONG HAIR SHOULD BE TIED BACK. ALSO, THE STUDENT SHOULD WEAR APPROPRIATE PROTECTIVE EQUIPMENT AND SAFETY DEVICES.

YOU SHOULD QUICKLY CHECK EACH STUDENT FOR SAFE GROOMING BEFORE PERMITTING ANY WORK. YOU CAN ALSO HAVE STUDENTS CHECK EACH OTHER.

PERSONAL PROTECTIVE EQUIPMENT/DEVICES/APPAREL.

PROTECTIVE EQUIPMENT, DEVICES, AND APPAREL PROTECT AGAINST AN ACCIDENT OR UNUSUAL SAFETY HAZARD. THEY CANNOT AND SHOULD NOT BE EXPECTED TO SUBSTITUTE FOR THE ELIMINATION OF SAFETY HAZARDS IN THE LABORATORY.

A VARIETY OF ACTIVITIES IN THE LABORATORY CAN BE HAZARDOUS TO UNPROTECTED EYES. IN ANY LABORATORY WHERE MACHINES OR MATERIALS THAT ARE POTENTIALLY HAZARDOUS TO THE EYES ARE BEING USED, EVERY STUDENT SHOULD WEAR EYE PROTECTION AT ALL TIMES. FOR GENERAL EYE PROTECTION, IT IS BEST IF EACH STUDENT OWNS HIS/HER OWN PAIR OF GOGGLES. THERE ARE SEVERAL TYPES OF GOGGLES. SPECTACLE GOGGLES LOOK LIKE NORMAL GLASSES BUT HAVE SIDE SHIELDS FOR ADDED PROTECTION. THEY ARE EXTREMELY USEFUL FOR IMPACT PROTECTION. CUP GOGGLES HAVE A HEADBAND WHICH IS USED TO FIT THE GOGGLES SECURELY AROUND THE FACE BONE SURROUNDING THE EYE. THIS TYPE OF GOGGLE IS RECOMMENDED FOR OPERATIONS INVOLVING DUST AND CHIPS, SUCH AS GRINDING. FACE SHIELDS ARE MADE OF PLASTIC AND COVER THE ENTIRE FACE AREA. THEY ARE USUALLY ATTACHED WITH A TYPE OF HEADBAND. VERY SIMILAR TO THE FACE SHIELD ARE HELMETS MADE OF FIBERGLASS WITH A SMALL RECTANGULAR VIEWING WINDOW. THIS DEVICE IS USED FOR ELECTRIC WELDING AND OTHER OPERATIONS WHERE THERE IS DANGER FROM HEAT, LIGHT, OR IMPACT. COVER GOGGLES ARE MADE OF SOFT PLASTIC AND ARE DESIGNED TO FIT OVER A PERSON'S REGULAR GLASSES. THEY ARE ATTACHED WITH A RUBBER-TYPE HEADBAND.

HEAD AND EAR INJURIES ARE NOT COMMON IN THE SHOP. HOWEVER, CERTAIN ACTIVITIES WARRANT THE USE OF HEAR AND EAR PROTECTION. HEAD PROTECTION IS REQUIRED FOR MOST CONSTRUCTION ACTIVITIES, AND EAR PROTECTION IS ESSENTIAL IN CERTAIL AIRCRAFT ENGINE SHOPS WHERE THE NOISE LEVEL EXCEEDS 100 DECIBELS. FOR HEAD PROTECTION, THE "HARD HAT" IS MOST OFTEN USED. IT IS A HAT WITH A FULL, ALL-AROUND EDGE AND IS WATER RESISTANT, NON-COMBUSTIBLE, AND A NON-CONDUCTOR OF ELECTRICITY. FOR EAR PROTECTION, SIMPLE WAX OR PLASTIC PLUGS MAY BE USED, BUT THE BEST PROTECTION IS ACOUSTICAL EAR MUFFS.

HAND, FOOT, AND LEG PROTECTION IS GENERALLY FOR PROTECTION FROM MINOR INJURIES. HOWEVER, FINGER INJURIES ARE THE MOST FREQUEST KIND OF INJURY IN SCHOOL SHOPS. GLOVES MADE OF HEAVY COTTON OR CANVAS ARE GOOD PROTECTION IN MOST INSTANCES. FOR HEAVIER WORK OR HEAT, HOWEVER, GLOVES SHOULD BE MADE OF LEATHER OR ASBESTOS SAFETY SHOES WITH STEEL TOES ARE RECOMMENDED FOR FOOT PROTECTION.

A VERY USEFUL PIECE OF PROTECTION EQUIPMENT NEEDED IN THE SCHOOL SHOP IS THE FILTER RESPIRATOR. THIS DEVICE CONSISTS OF A FACT PIECE TO FILTER FUMES AND DUST OUT OF THE AIR AS IT IS INHALED. OTHER, MORE SOPHISTICATED, FILTERS ARE AVAILABLE TO FILTER MORE SERIOUS CONTAMINANTS.

THERE IS OTHER GENERAL SAFETY EQUIPMENT SUCH AS APRONS AND COVERALLS WHICH GIVE GENERAL BODY PROTECTION. THESE ARE USUALLY MADE OF A RUGGED TYPE OF CLOTH.

IT IS IMPORTANT TO REMEMBER THAT THESE ARE DEVICES TO PROTECT ALL PARTS OF THE BODY. IT IS YOUR RESPONSIBILITY TO (1) KNOW THE DEVICES REQUIRED BY LAW, (2) SELECT THE BEST POSSIBLE DEVICE FOR THE SITUATION, (3) ASSIST STUDENTS IN DEVELOPING A POSITIVE ATTITUDE ABOUT THEIR USE, AND (4) DEMONSTRATE THEIR PROPER USE AND MAINTENANCE.

RECORD KEEPING.

IT IS IMPORTANT THAT AS PART OF YOUR SAFETY PROGRAM YOU DEVELOP A METHOD FOR KEEPING RECORDS. KEEPING RECORDS SHOWS HOW WELL YOU PROVIDE STUDENTS WITH A SAFE LEARNING AND WORKING ENVIRONMENT. RECORDS ALSO SERVE AS A REMINDER OF WHAT ASPECTS OF SAFETY YOU HAVE COVERED WITH A CLASS. ALONG WITH KEEPING A RECORD OF YOUR SAFETY INSTRUCTION, YOU SHOULD ALSO KEEP A RECORD OF ALL ACCIDENTS WHICH OCCUR. THESE RECORDS CAN HELP IN PLANNING MEANS TO PREVENT SUCH ACCIDENTS FROM HAPPENING AGAIN. ALSO, THEY ARE OFTEN REQUIRED BY SCHOOL POLICY.

NATIONAL, STATE, AND LOCAL AGENCIES.

THE FOLLOWING AGENCIES CAN PROVIDE YOU WITH MUCH USEFUL INFORMATION. MOST MATERIALS FROM THESE AGENCIES ARE AVAILABLE FREE OF CHARGE.

NATIONAL AGENCIES:	AMERICAN SOCIETY OF SAFETY ENGINEERS, CHICAGO, ILLINOIS
	ASSOCIATION OF CASUALTY AND SURETY COMPANIES, NEW YORK, NEW YORK
	NATIONAL BOARD OF FIRE UNDERWRITERS, NEW YORK, NEW YORK
	NATIONAL SAFETY COUNCIL, CHICAGO, ILLINOIS
	UNDERWRITERS' LABORATORIES, INC., CHICAGO, ILLINOIS
	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, WASHINGTON, DC
STATE AGENCIES:	STATE DIVISIONS OF SAFETY INSPECTION
	STATE DIVISIONS OF INDUSTRIAL SAFETY
	STATE DEPARTMENT OF LABOR
	STATE DIVISION OF HEALTH AND HYGIENE
LOCAL AGENCIES:	AMERICAN RED CROSS
	INSURANCE AGENCIES
	COMMUNITY SAFETY COUNCIL

ALSO EVERY VOCATIONAL TEACHER SHOULD HAVE A COPY OF "OCCUPATIONAL SAFETY AND HEALTH STANDARDS," WHICH IS MADE AVAILABLE BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), U.S. DEPARTMENT OF LABOR. THIS PUBLICATION SETS FORTH ALL FEDERAL RULES AND REGULATIONS REGARDING OCCUPATIONAL SAFETY AND HEALTH STANDARDS.

B. COMPLETE THE FOLLOWING SHORT ESSAY QUESTIONS AS A SELF-CHECK ON THE INFORMATION IN THE ABOVE READINGS. PLEASE EXPLAIN FULLY, BUT BRIEFLY. ANSWER ON A SEPARATE SHEET OF PAPER.

1. DISCUSS REASONS WHY A GOOD SAFETY ATTITUDE NEED NOT BE AFFECTED WHEN OLD SAFETY SKILLS AND KNOWLEDGE BECOME OBSOLETE.

2. WHAT ARE SOME OF THE ASPECTS OF A SAFETY PROGRAM THAT SHOULD BE TAUGHT AT THE VERY BEGINNING OF A VOCATIONAL CLASS?

3. EXPLAIN WHY PERSONAL PROTECTIVE DEVICES ARE NOT CONSIDERED A PRIMARY DEFENSE AGAINST INJURY.

4. HOW CAN ACCIDENT REPORTS IMPROVE THE SAFETY PROGRAM?

5. WHAT ARE SOME INDICATORS OF A POTENTIALLY STRONG SAFETY PROGRAM?

6. OF WHAT BENEFIT IS A RECORD OF SAFETY INSTRUCTION?

7. WHAT PURPOSES CAN SAFETY POSTERS SERVE IN A SCHOOL SHOP OR LABORATORY?

CHECK

COMPARE YOUR WRITTEN RESPONSES ON THE SELF-CHECK WITH THE MODEL ANSWERS GIVEN BELOW. YOUR RESPONSES NEED NOT EXACTLY DUPLICATE THE MODEL RESPONSES; HOWEVER, YOU SHOULD HAVE COVERED THE SAME MAJOR POINTS. IF YOU MISSED SOME POINTS OF HAVE QUESTIONS ABOUT ANY ADDITIONAL POINTS YOU MADE, REVIEW THE MATERIAL AGAIN OR CHECK WITH YOUR INSTRUCTOR.

1. A GOOD SAFETY ATTITUDE IS THE RESULT OF AN AWARENESS OF THE NEED FOR SAFETY AND A READINESS TO ACT IN A SAFE MANNER. THIS ATTITUDE BECOMES A HABIT. ONCE IT IS FORMED, INNOVATIONS AND CHANGES SHOULD NOT WEAKEN ONE'S ATTITUDE TOWARD SAFETY.

2. GENERAL KINDS OF SAFETY INFORMATION SHOULD BE GIVEN AT THE BEGINNING OF A CLASS. THIS INFORMATION SHOULD COVER ALL MAJOR PARTS OF THE SAFETY PROGRAM. THE FOLLOWING QUESTIONS SHOULD BE ANSWERED.

   - UNDER WHAT CONDITIONS MAY HAZARDOUS EQUIPMENT BE OPERATED?
   - WHAT KIND OF CONDUCT IS APPROPRIATE IN AND AROUND THE SHOP OR LABORATORY?
   - WHAT SHOULD BE DONE IN CASE OF AN ACCIDENT?
   - HOW SHOULD TOOLS BE CHECKED IN AND OUT?
   - WHAT COLOR CODES ARE USED ON MACHINES?
   - WHAT GENERAL HOUSEKEEPING RULES SHOULD BE OBSERVES?
   - WHAT IS THE PROPER USE OF TOOLS?
   - WHAT IS APPROPRIATE EYE WEAR AND WHEN SHOULD IT BE WORN?
   - WHAT ARE THE SAFETY FEATURES OF THE LABORATORY?

3. PERSONAL PROTECTICE DEVICES ARE CONSIDERED A BACK-UP DEFENSE TO THE BEST POSSIBLE SAFETY SYSTEM ALREADY EMPLOYED. THE FIRST GOAL OF THE SAFTEY PROGRAM SHOULD BE TO ELIMINATE OR REDUCE DANGER, NOT JUST PROTECT ONESELF AGAINST IT.

4. ACCIDENT REPORTS HELP TO IDENTIFY UNKNOWN OR UNSUSPECTED HAZARDS. THIS IDENTIFICATION IN TURN ENABLES YOU TO IMPROVE YOUR SAFETY PROGRAM BY ELIMINATING OR GUARDING AGAINST THOSE HAZARDS.

5. THE EFFECTIVENESS OF A SAFETY PROGRAM CAN BE DETERMINES BY MANY FACTORS, DEPENDING ON THE NATURE OR KIND OF VOCATIONAL PROGRAM IN WHICH IT FUNCTIONS. SOME GENERAL OR UNIVERSAL INDICATORS OF AN EFFECTIVE PROGRAM INCLUDE THE FOLLOWING.

6. A RECORD OF SAFETY INSTRUCTION CAN SERVE IN THE FOLLOWING WAYS: (1) IT CAN ASSIST A TEACHER WITH EVIDENCE OF SAFETY INSTRUCTION WHEN HE OF SHE IS INVOLVED IN A LIABILITY SUIT; (2) IT IS AN EXCELLENT SOURCE TO ASSIST THE TEACHER WHO IS ATTEMPTING TO REVISE THE SAFETY PROGRAM; AND (3) IT SERVES AS A HANDY REFERENCE FOR TEACHERS TO DETERMINE THE EXTENT OF THEIR SAFETY INSTRUCTION AND THOSE AREAS NEEDING IMMEDIATE ACTION.

7. SAFETY POSTERS CAN SERVE AS ATTENTION GETTERS AND AS REMINDERS TO STUDENTS OF SAFETY PRACTICES. THEY CAN ALSO BE USED AS INSTRUCTIONAL AIDS.

<

OBJECTIVE

BASED ON APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY LAWS AND STUDENT PERFORMANCE OBJECTIVES IN YOUR OCCUPATIONAL SPECIALTY, PREPARE A SAFETY HANDBOOK.

RESOURCES

SEE THE INFORMATION CONTAINED IN THE ACTIVITY SECTION

ACTIVITY

A. EXAMINE LOCAL, STATE AND FEDERAL SAFETY LAWS TO IDENTIFY THE PERSONAL AND MACHINE PROTECTIVE DEVICES REQUIRED FOR YOUR AREA OF OCCUPATIONAL SPECIALTY. WRITE OR CALL YOUR STATE DEPARTMENT OF INDUSTRIAL SAFETY TO OBTAIN A LIST OF THESE APPLICABLE LAWS OR TO FIND OUT THE APPROPRIATE SOURCE TO CONTACT FOR THE SAME INFORMATION. (SOME STATES PUBLISH SAFETY LAWS IN THE FORM OF SAFETY MANUALS OR SAFETY HANDBOOKS.)

B. EXAMINE THE STUDENT PERFORMANCE OBJECTIVES OF YOUR CURRICULUM AND GENERATE A LIST OF THE PERSONAL AND MACHINE SAFETY DEVICES REQUIRED IN MEETING THOSE OBJECTIVES.

C. USING THE INFORMATION OBTAINED FROM EXAMINING SAFETY LAWS AND THE LIST OF SAFETY DEVICES YOU GENERATED, PREPARE A SAFETY HANDBOOK FOR YOUR OCCUPATIONAL SPECIALTY. YOUR HANDBOOK SHOULD ALSO INCLUDE ALL THE GENERAL SAFETY RULES AND PRACTICES YOU WILL INCORPORATE INTO YOUR SAFETY PROGRAM.

CHECK

AFTER YOU HAVE DEVELOPED YOUR HANDBOOK, USE THE SAFETY HANDBOOK CHECKLIST GIVEN BELOW TO EVALUATE YOUR WORK. ALL ITEMS MUST RECEIVE FULL OR N/A RESPONSES. IF ANY ITEM RECEIVES A NO OR PARTIAL RESPONSE, REVIEW THE MATERIAL AGAIN. REVISE YOUR HANDBOOK ACCORDINGLY OR CHECK WITH YOUR INSTRUCTOR.

SAFETY HANDBOOK CHECKLIST

	LEVEL OF PERFORMANCE			
	N/A	NO	PARTIAL	FULL
THE HANDBOOK:				
1. CONFORMED TO FEDERAL SAFETY LAWS	____	____	____	____
2. CONFORMED TO STATE SAFETY LAWS	____	____	____	____
3. CONFORMED TO LOCAL SAFETY LAWS	____	____	____	____
4. SPECIFIED SAFE CONDITIONS IN THE LABORATORY WITH RESPECT TO FLOORS, AISLES, LIGHTING, VENTILATION, EXITS, AND SIGNS	____	____	____	____
5. INCLUDED PROCEDURES TO FOLLOW IN THE EVENT OF FIRE	____	____	____	____
6. SPECIFIED REGULATION PERTAINING TO APPAREL, SUCH AS SAFETY GLASSES, HELMETS, APRONS, SHOES, GLOVES, LOOSE CLOTHING, AND JEWELRY	____	____	____	____
7. SPECIFIED SAFE OPERATING CONDITIONS FOR EQUIPMENT, SUCH AS GUARDS, CONTROL SWITCHES, AND PROPER MAINTENANCE	____	____	____	____
8. SPECIFIED REQUIREMENTS FOR TEACHER SUPERVISION	____	____	____	____
9. SPECIFIED GENERAL SAFETY RULES TO GOVERN CONDUCT IN THE LABORATORY SUCH AS:				
A. HOUSEKEEPING	____	____	____	____
B. USING TOOLS, APPLIANCES, AND MACHINES	____	____	____	____
C. RETURNING TOOLS TO PROPER PLACES	____	____	____	____
10. GAVE PROCEDURES TO FOLLOW IN CASE OF AN ACCIDENT	____	____	____	____

OBJECTIVE

FOR SIMULATED CLASSROOM SITUATIONS, PROVIDE FOR STUDENT SAFETY NEEDS.

RESOURCES

SEE THE INFORMATION CONTAINED IN THE ACTIVITY SECTION

ACTIVITY A

NOTE: THE FOLLOWING ACTIVITY INVOLVES ROLE-PLAYING WITH A PEER. IF A PEER IS NOT AVAILABLE TO YOU, GO ON TO ACTIVITY B.

A. SELECT A STUDENT PERFORMANCE OBJECTIVE IN YOUR OCCUPATIONAL SPECIALTY THAT COULD BE ACHIEVED, AT LEAST PARTIALLY, BY A MANIPULATIVE SKILL DEMONSTRATION AND STUDENT PRACTICE. (IN A REAL WORLD SITUATION, YOU START WITH AN OBJECTIVE AND THEN SELECT THE MOST APPROPRIATE MATERIALS AND/OR TEACHING METHODS. IN THIS PRACTICE SITUATON, HOWEVER, YOU NEED TO SELECT AN OBJECTIVE THAT LENDS ITSELF TO DEMONSTRATING A MANIPULATIVE SKILL.)

B. PREPARE A DETAILED LESSON PLAN WHICH INCLUDES AN EXPLANATION OF HOW THE MANIPULATIVE SKILL WILL BE DEMONSTRATED AND HOW THE SAFETY NEEDS OF STUDENTS WILL BE PROVIDED FOR. INSTEAD OF DEVELOPING A LESSON PLAN, YOU MAY SELECT A LESSON THAT YOU HAVE DEVELOPED PREVIOUSLY AND ADAPT THAT PLAN SO THAT IT INCLUDES A MANIPULATIVE SKILL DEMONSTRATION WHICH PROVIDES FOR STUDENT SAFETY NEEDS.

C. BASED ON YOUR LESSON PLAN, SELECT, OBTAIN, OR PREPARE THE MATERIALS AND EQUIPMENT YOU WILL NEED TO GIVE YOUR DEMONSTRATION.

D. IN A SIMULATED SITUATON, PRESENT A MANIPULATIVE SKILL DEMONSTRATION TO A PEER AND SUPERVISE HIS/HER PRACTICE OF THE SKILL. THE PEER WILL SERVE TWO FUNCTIONS: (1) HE/SHE WILL ROLE-PLAY A STUDENT TO WHOM YOU ARE PRESENTING YOUR DEMONSTRATION AND WHOSE PRACTICE YOU ARE SUPERVISING AND (2) HE/SHE WILL EVALUATE YOUR PERFORMANCE.

E. USING A SAFETY FORM THAT YOU ARE FAMILIAR WITH, RECORD THE SAFETY PRACTICES COVERED IN YOUR DEMONSTRATION AND ANY OTHER APPLICABLE INFORMATION CALLED FOR BY THE FORM.

CHECK

GIVE A COPY OF THE DEMONSTRATION/SUPERVISON CHECKLIST GIVEN IN HANDOUT #4 TO THE PEER BEFORE MAKING YOUR PRESENTATION IN ORDER TO ENSURE THAT HE/SHE KNOWS WHAT TO LOOK FOR IN YOUR DEMONSTRATION/SUPERVISION. HOWEVER, INDICATE THAT DURING THESE ACTIVITIES, ALL ATTENTION IS TO BE DIRECTED TOWARD YOU AND THAT THE CHECKLIST IS TO BE COMPLETED AFTER THE ACTIVITIES ARE FINISHED. ALL ITEMS MUST RECEIVE FULL OR N/A RESPONSES. IF ANY ITEM RECEIVES A NO OR PARTIAL RESPONSE, THE TEACHER AND INSTRUCTIOR SHOULD MEET TO DETERMINE WHAT ADDITIONAL ACTIVITIES THE TEACHER NEEDS TO COMPLETE IN ORDER TO REACH COMPETENCY IN THE WEAK AREA(S).

DEMONSTRATION/SUPERVISION CHECKLIST

	LEVEL OF PERFORMANCE			
	N/A	NO	PARTIAL	FULL
1. DURING THE MANIPULATIVE SKILL DEMONSTRATION, THE ENVIRONMENT WAS SAFE WITH RESPECT TO:				
A. THE CONDITION OF TOOLS, APPLIANCES, AND MACHINES	____	____	____	____
B. MATERIALS, E.G., LIQUIDS, METAL, WOOD, ETC.	____	____	____	____
C. CONDITION OF THE DEMONSTRATION AREA	____	____	____	____
D. PLACEMENT OF THE STUDENT	____	____	____	____
E. LIGHTING AND VENTILATION	____	____	____	____
2. SAFETY PRACTICES SPECIFIC TO PERFORMING THE MANIPULATIVE SKILL WERE COVERED	____	____	____	____
3. THE TEACHER POINTED OUT KNOWN SAFETY HAZARDS ASSOCIATED WITH THE MANIPULATIVE SKILL	____	____	____	____
4. THE TEACHER USED APPROPRIATE MACHINE SAFETY GUARDS	____	____	____	____
5. THE TEACHER USED APPROPRIATE PERSONAL PROTECTICE EQUIPMENT AND DEVICES	____	____	____	____
6. THE TEACHER EXPLAINED WHY EACH PERSONAL SAFETY DEVICE WAS USED	____	____	____	____
7. THE TEACHER ENCOURAGES QUESTIONS ABOUT SAFETY ASPECTS OF THE DEMONSTRATION	____	____	____	____
8. THE TEACHER ASKED KEY QUESTIONS ABOUT THE SAFETY FEATURES OF THE DEMONSTRATION	____	____	____	____
9. THE TEACHER AVOIDED ANY SHORTCUTS IN SAFETY PRACTICES	____	____	____	____
10. THE TEACHER ENSURED THAT THE STUDENT FOLLOWED CORRECTLY ALL SAFETY PRACTICES INVOLVED IN PERFORMING THE SKILL	____	____	____	____
11. THE TEACHER RECORDED THE SAFETY INSTRUCTION PROVIDED	____	____	____	____

ACTIVITY B

A. THE FOLLOWING CASE SITUATIONS DESCRIBE HOW FIVE VOCATIONAL TEACHERS PROVIDED FOR THE SAFETY NEEDS OF THEIR STUDENTS. READ EACH OF THE SITUATIONS AND THEN EXPLAIN ON A SEPARATE SHEET OF PAPER (1) WHAT SAFETY PRECAUTIONS WERE FOLLOWED, (2) WHAT SAFETY PRECAUTIONS WERE OVERLOOKED AND (3) WHAT PRECAUTIONS YOU WOULD HAVE TAKEN.

CASE STUDY 1:

MR. WYMER, THE TECHNICAL EDUCATION INSTRUCTOR, WALKED INTO HIS LABORATORY AND FOUND A TEN GALLON CAN OF BENZINE LEAKING ONTO THE FLOOR. AS HIS FIRST CLASS ARRIVED, HE CAUTIONED THEN TO KEEP AWAY FROM THAT AREA. HE INSTRUCTED THREE OF HIS STUDENTS TO MOP THE BENZINE OFF THE FLOOR USING CLEANING RAGS. TWO OTHER STUDENTS PICKED UP A BOX FROM THE CUSTODIAN TO STORE THE SOAKED CLEANING RAGS. WHEN THE FLOOR WAS CLEAN, MR. WYMER PLACED THE BOX IN THE TOOL ROOM AND RESUMED THE SCHEDULED ACTIVITIES.

CASE STUDY 2:

TO ALLOW STUDENTS THE FULLEST BENEFIT OF SKILL PRACTICE, MRS. KEYES, THE VOCATIONAL HOME ECONOMICS TEACHER, GAVE HER STUDENTS PERMISSION TO WORK UNITL THE END OF THE CLASS PERIOD. SHE ANNOUNCED THAT SHE WOULD BE RESPONSIBLE FOR CLEANING THE LABORATORY BEFORE THE BEGINNING OF THE NEXT CLASS PERIOD.

CASE STUDY 3:

AFTER GIVING A DEMONSTRATION ON THE SAFE WAY TO WELD HARD SURFACE MATERIAL TO A PLOW SHARE, MR. WELDON, THE VOCATIONAL AGRICULTURE TEACHER, INSTRUCTED HIS STUDENTS TO PRACTICE PERFORMING THE SKILL UNTIL HE RETURNED FROM DOWNTOWN. MR. WELDON DECIDED THAT SINCE HIS SUPPLIES WERE READY AND DOWNTOWN WAS ONLY MINUTES AWAY, HE COULD GET BACK IN PLENTY OF TIMET TO MEET HIS NEXT CLASS.

CASE STUDY 4:

AS MS. BARNES'S 9TH GRADE INDUSTRIAL ARTS CLASS BEGAN, TWO OF HER MORE CAPABLE STUDENTS WERE ANXIOUS TO COMPLETE AN ADVANCED PROJECT THEY HAD STARTED. TO CONTINUE THEIR PROJECT, THEY NEEDED TO USE THE TABLE SAW. MS. BARNES DID NOT REMEMBER IF SHE HAD GIVEN INSTRUCTION ON THE SAFE USE OF THIS MACHINE TOOL, BUT THE TWO STUDENTS INSISTED THAT THEY KNEW WHAT TO DO. MS. BARNES GAVE THEM HER PERMISSION AND PROCEEDED WITH INSTRUCTION FOR THE REST OF THE CLASS.

CASE STUDY 5:

MR. BARKER WAS READING A LOCAL T & I JOURNAL AND DISCOVERED THAT THERE WERE NEW SAFETY PRACTICES EMERGING FOR WORKERS IN HIS SPECIALTY. WITHOUT DELAY, HE WROTE TO A COUPLE OF LOCAL INDUSTRIES FOR MORE DETAILS. AT THE THE SAME TIME, HE SUSPENDED ALL LABORATORY ACTIVITIES UNTIL THE NEW MATERIAL ARRIVED.

CHECK

COMPARE YOUR COMPLETED WRITTEN CRITIQUES OF THE CASE SITUATIONS WITH THE MODEL CRITIQUES GIVEN BELOW. YOUR RESPONSES NEED NOT EXACTLY DUPLICATE THE MODEL RESPONSES; HOWEVER, YOU SHOULD HAVE COVERED THE SAME MAJOR SAME MAJOR POINTS. IF YOU MISSED SOME POINTS OT HAVE QUESTIONS ABOUT ANY ADDITIONAL POINTS YOU MADE, REVIEW THE MATERIAL AGAIN OR CHECK WITH YOUR INSTRUCTOR.

<

$$$$END END/OS18$$$$

#####BEGIN PST/OS18#####

ANSWERS#P,F,S,S#4/4

<

NOTE: THERE IS NO POST-CHECK FOR THIS MODULE. SEE YOUR INSTRUCTOR FOR THE CORRECT CODE OF LETTERS TO FEED BACK INTO THE COMPUTER AS YOUR RESPONSES.

<

$$$$$END PST/OS18$$$$$

```
###BEGIN PRE/PO2###
ANSWERS#0#
NPRE#
ENO#2
<
```

NOTE: THERE IS NO PRE-CHECK FOR THIS MODULE. THE FOLLOWING IS THE MODULE OF INSTRUCTION YOU SHOULD TAKE BACK TO CLASS AND WORK ON.

```
<
$$$END PRE/PO2$$$
####BEGIN ENO/PO2####
#ENO#2
<
```

OBJECTIVE

FORMULATE A WRITTEN POINT OF VIEW REGARDING THE ESTABLISHIMENT OF OCCUPATIONAL PROGRAMS.

RESOURCES

TEXT: FOUNDATIONS OF VOCATIONAL EDUCATION, RUPERT N. EVANS, MERRILL PUBLISHING CO., COLUMBUS, OHIO, 1971, PP. 1-66.

ACTIVITY

1. READ PAGES 1-66 IN FOUNDATIONS OF VOCATIONAL EDUCATION BY EVANS.

2. ATTEND THE INTRODUCTORY LECTURE - SESSION 1.

3. WRITE A POSITION PAPER REGARDING THE ESTABLISHMENT AND OPERATION OF OCCUPATIONAL PROGRAMS ACCORDING TO THE FOLLOWING CRITERIA.

   A. WHOM SHALL WE TEACH?
   B. WHO SHALL TEACH?
   C. WHAT SHALL WE TEACH?
   D. HOW SHALL WE TEACH?
   E. FOR WHAT ENDS SHALL WE TEACH?
   F. WHERE SHALL WE TEACH?

CHECK

WHEN YOU HAVE COMPLETED THE PAPER TO YOUR SATISFACTION ACCORDING TO THE STATED CRITERIA, SHOW IT TO YOUR INSTRUCTOR. WHEN YOU RECEIVE HIS APPROVAL, GO ON TO THE NEXT PACKAGE.

_____
INSTRUCTOR'S APPROVAL

<

OBJECTIVE

REFORMULATE A WRITTEN POINT OF VIEW REGARDING THE ESTABLISHMENT AND OPERATION OF OCCUPATIONAL PROGRAMS.

RESOURCES

TEXT: FOUNDATIONS OF VOCATIONAL EDUCATION, RUPERT N. EVANS, MERRILL PUBLISHING CO., COLUMBUS, OHIO, PP. 1-66.

ACTIVITY

NOTE: THIS ACTIVITY WILL BE DONE AT THE CONCLUSION OF THE COURSE.

1. REVIEW PAGES 1-66 IN FOUNDATIONS OF VOCATIONAL EDUCATION BY EVANS.

2. ATTEND THE COURSE REVIEW LECTURE - SESSION 14.

3. WRITE A POSITION PAPER REGARDING THE ESTABLISHMENT AND OPERATION OF OCCUPATIONAL PROGRAMS USING THE KNOWLEDGE YOU HAVE GAINED IN THIS COURSE AND THE FOLLOWING CRITERIA.

   A. WHOM SHALL WE TEACH?
   B. WHO SHALL TEACH?
   C. WHAT SHALL WE TEACH?
   D. HOW SHALL WE TEACH?
   E. FOR WHAT ENDS SHALL WE TEACH?
   F. WHERE SHALL WE TEACH?

   THE POINT OF VIEW EXPRESSED IN THIS POSITION PAPER SHOULD BE CONSISTENT WITH THE GOALS OF THE TEACHING PROFESSION IN GENERAL AND CONSISTENT WITH THE GOALS OF VOCATIONAL EDUCATION IN PARTICULAR.

CHECK

WHEN YOU HAVE COMPLETED THE PAPER TO YOUR SATISFACTION, SHOW IT TO YOUR INSTRUCTOR. WHEN YOU RECEIVE HIS APPROVAL, GO ON TO THE POST-CHECK.

_____
INSTRUCTOR'S APPROVAL

```
<
$$$$END ENO/P02$$$$
#####BEGIN PST/P02#####
ANSWERS#P,H,I,L,O#5/5
<
```

NOTE: THERE IS NO POST-CHECK FOR
THIS MODULE. SEE YOUR INSTRUCTOR
FOR THE CORRECT CODE OF LETTERS
TO ENTER AS YOUR ANSWERS.

```
<
$$$$$END PST/P02$$$$$
```

APPENDIX E

```
RUN (220,0)EXPLORE

                        EXPLORE VR3.2.78

                Explore Areas In Occupational Education
        University of Delaware - Department of Occupational Education

What is your complete name? SUE COOK

Here is what you may do:

1.)  Obtain a list and description of some of the areas which you
     may work on.

Option: 1

The followings clusters are now available for use:

1)  AG  --  Agriculture
2)  T   --  Transportation
3)  H   --  Health
4)  M   --  Manufacturing
5)  BO  --  Business and Office
6)  PS  --  Public Service
7)  C   --  Construction

Which cluster do you wish to investigate? 6

The following areas are included in this cluster.

1)  NF  --  Nevin Frantz  -  DTCC Workshop
2)  IM  --  Instructional Modules
3)  II  --  Individualized Instructional System
4)  EN  --  English - DTCC Georgetown
5)  PO  --  Principles of Occupational Education
6)  SF  --  Safety
7)  AR  --  Adult Reading - Wilmington
8)  OS  --  EDO 380 - Nevin Frantz
9)  AC  --  Analytical Chemistry - DTCC Stanton
10)  FT --  Fire Technology - DTCC Stanton
11)  EL --  Electricity II - DTCC Stanton
12)  TW --  Technical Report Writing

Which of these areas are you interested in? 5
```

Here is a list of key words for each terminal performance objective.

1) Course Overview
2) A Personal Educational Philosophy
3) Current Trends and Current Needs
4) The Programs of Vocational Education
5) Relationship of Voc. Ed. to General Education
6) An Educator's Code of Ethics

Which TPO's would you like described? 2

2. Six perennial questions of education will be used as a framework for developing and expanding a set of beliefs about vocational education. This set of beliefs will then serve as a guideline for making educational decisions. Upon completing this unit, the prospective teacher will be able to continue to modify and expand a set of beliefs regarding vocational education using the six perennial questions as a framework for thinking.

Do you wish further TPO descriptions for this area? NO

Do you wish to investigate other areas? YES

Which of these areas are you interested in? 8

Here is a list of key words for each terminal performance objective.

1) Develop A Lesson Plan
2) Individualized Instruction
3) Determine Needs and Interests of Students
4) Provide Instruction for Slower and More Capable Learners
5) Establish Student Performance Criteria
6) Assess Student Performance: Knowledge
7) Assess Student Performance: Attitudes
8) Assess Student Performance: Skills
9) Determine Student Grades
10) Evaluate Your Instructional Effectiveness
11) Develop Student Performance Objectives
12) Develop a Unit of Instruction
13) Select Student Instructional Materials
14) Prepare Teacher-Made Instructional Materials
15) Introduce a Lesson
16) Summarize a Lesson
17) Employ Oral Questioning Techniques
18) Provide for Student Safety
19) Demonstrate a Manipulative Skill
20) Project Instructional Resource Needs

21) Provide for the First Aid Needs of Students
22) Assist Students in Developing Self-Discipline
23) Direct Students in Instructing Other Students
24) Guide Student Study
25) Direct Student Laboratory Experience

Which TPO's would you like described? 1,18

1. While working in an actual school situation, develop a lesson plan. Your performance will be assessed by your instructor using the "Teacher Performance Assessment Form."

18. In an actual school situation, provide for student safety. Your performance will be assessed by your instructor using the "Teacher Performance Assessment Form."

Do you wish further TPO descriptions for this area? NO

Do you wish to investigate other areas? NO

Which TPO do you wish to work on?

Option:

Ready

APPENDIX F

Name: _____ Class: _____

CRITERIA FOR ASSESSING COMPLETED INSTRUCTIONAL MODULES

	Unacceptable	Poor	Fair	Good	Excellent
	1	2	3	4	5
I. Terminal Performance Objectives					
1. Written in behavioral terms.	1	2	3	4	5
2. Do the enabling objectives project several steps in a proper learning sequence.	1	2	3	4	5
II. Pre-check					
1. Valid device or procedure which determines prior knowledge and/or skill of student.	1	2	3	4	5
OR					
2. Device or procedure will determine necessary prerequisites for successful achievement of terminal performance objective.	1	2	3	4	5
III. Instructional Package					
A. Objective:					
1. The objective is written in behavioral terms. It describes a behavior, necessary conditions, and the standard that must be met.	1	2	3	4	5
2. The objective is written for the target population.	1	2	3	4	5

B. Resources:

1. The resources are compatible with the objective. They include the same skill, concept, task, or equipment described in the objective. 1 2 3 4 5

2. A variety of resources are listed. Provision is made for a range of student abilities and learning styles. 1 2 3 4 5

3. The resources are appropriate for the target population. 1 2 3 4 5

C. Activities:

1. The activities are compatible with the objectives. They are necessary for the acquisition of the skill or knowledge described in the objective. 1 2 3 4 5

2. Activities require student response or action. They require student involvement other than just listening or reading. 1 2 3 4 5

D. Feedback:

1. Activities include self-checks whenever possible. The self-checks are used to help guide students in meeting required standards and provide for immediate feedback. 1 2 3 4 5

IV. Post-check:

1. The evaluation is compatible with the terminal performance objective. The evaluation tests for the same terminal behavior, under the same conditions, and to the same standards as described in the objective. 1 2 3 4 5

V. Total Module:

1. The instruction module to be completed. The material covered by the package is so related to complete in itself for attaining an objective. 1 2 3 4 5

2. The instruction module is self-instructional. Students working individually or in small groups can successfully use the module to achieve the terminal performance objective. 1 2 3 4 5